STATE OF MARYLAND

DHMH

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November 06, 2009

Public Health & Emergency Preparedness Bulletin: # 2009:43
Reporting for the week ending 10/31/09 (MMWR Week #43)

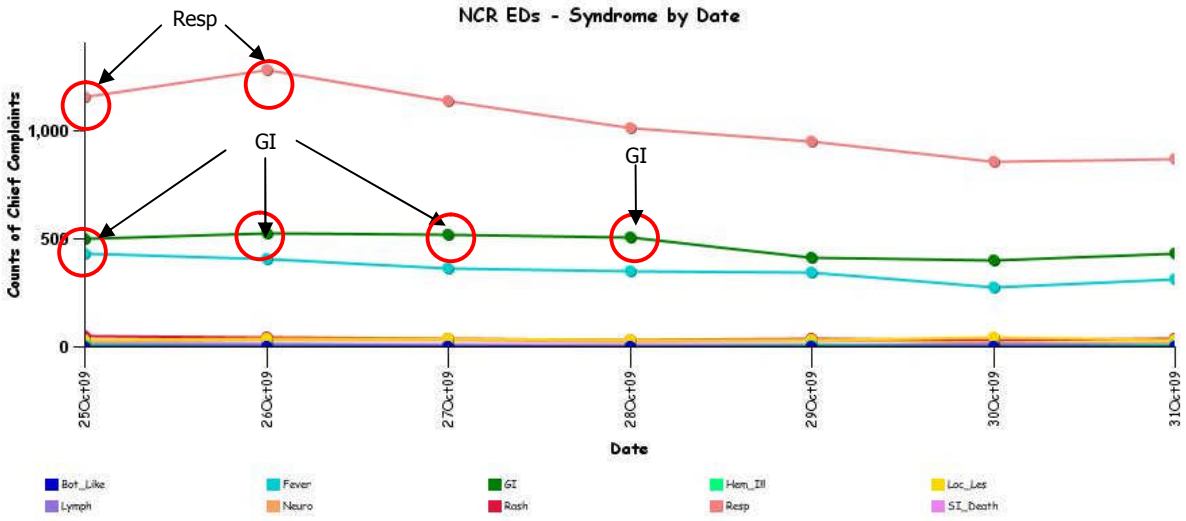
CURRENT HOMELAND SECURITY THREAT LEVELS

National: **Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)**
Maryland: **Yellow (ELEVATED)**

SYNDROMIC SURVEILLANCE REPORTS

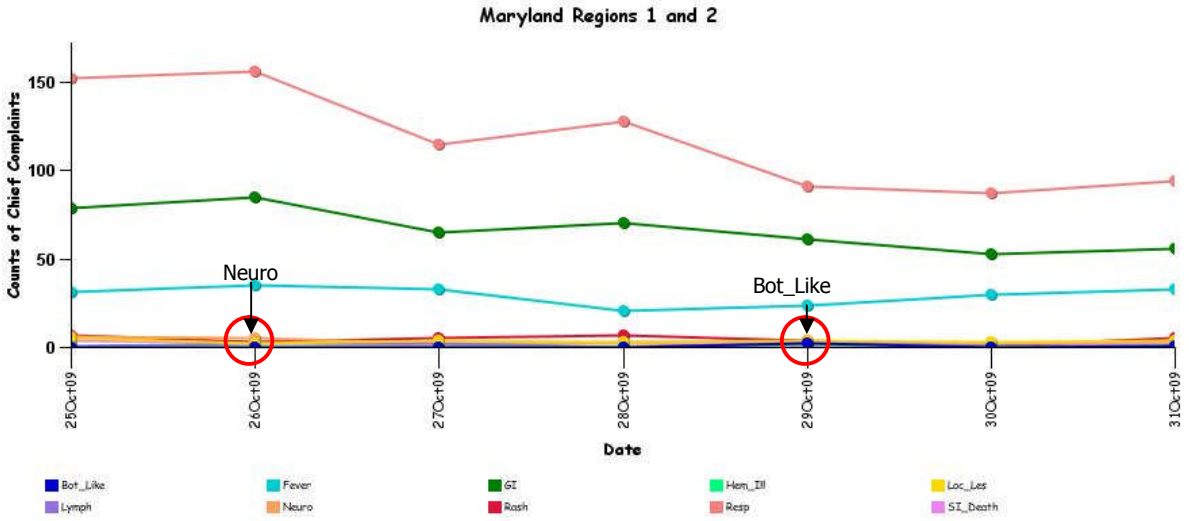
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

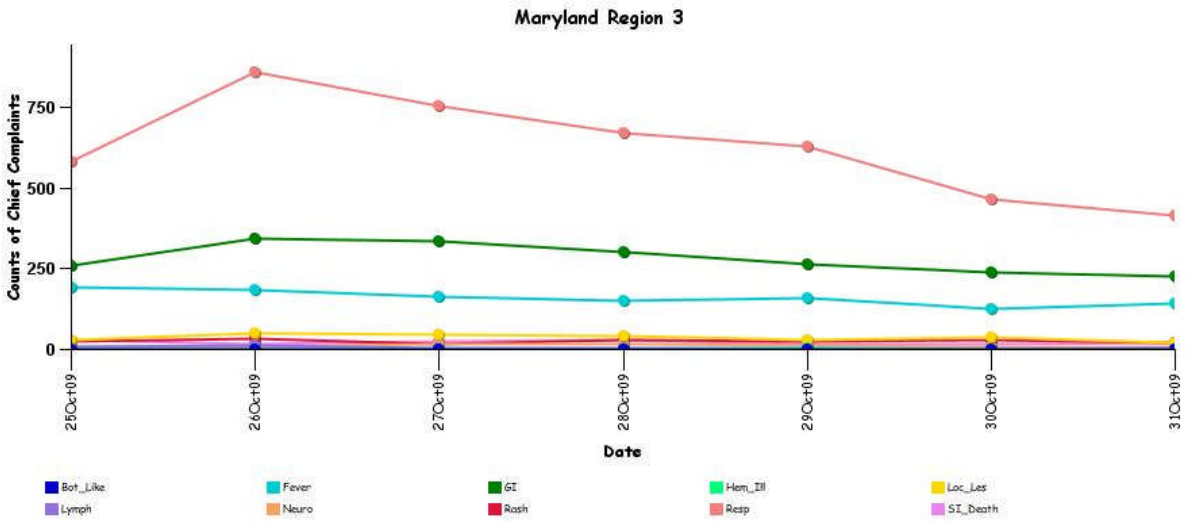


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

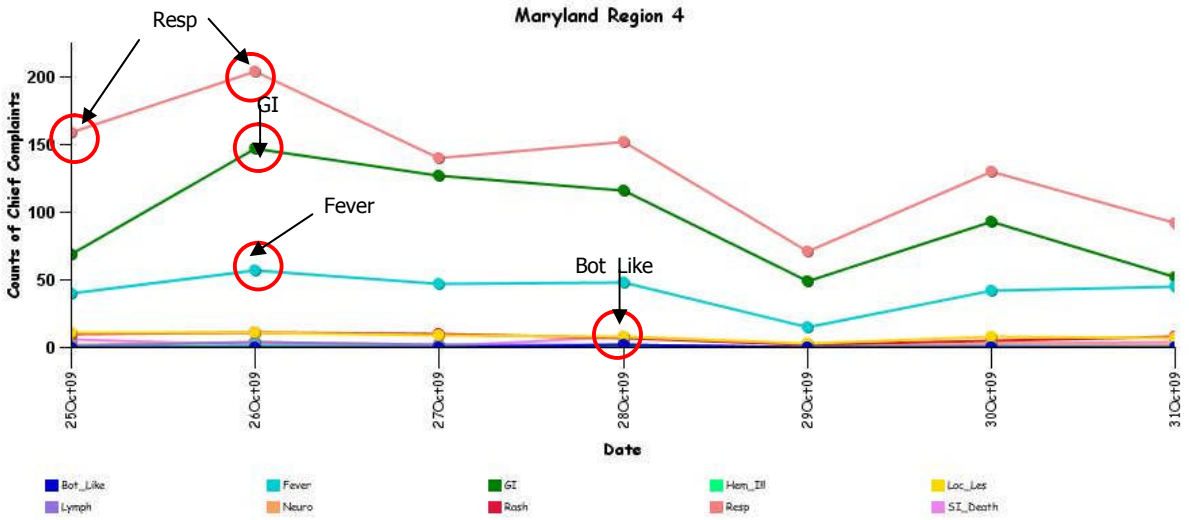
MARYLAND ESSENCE:



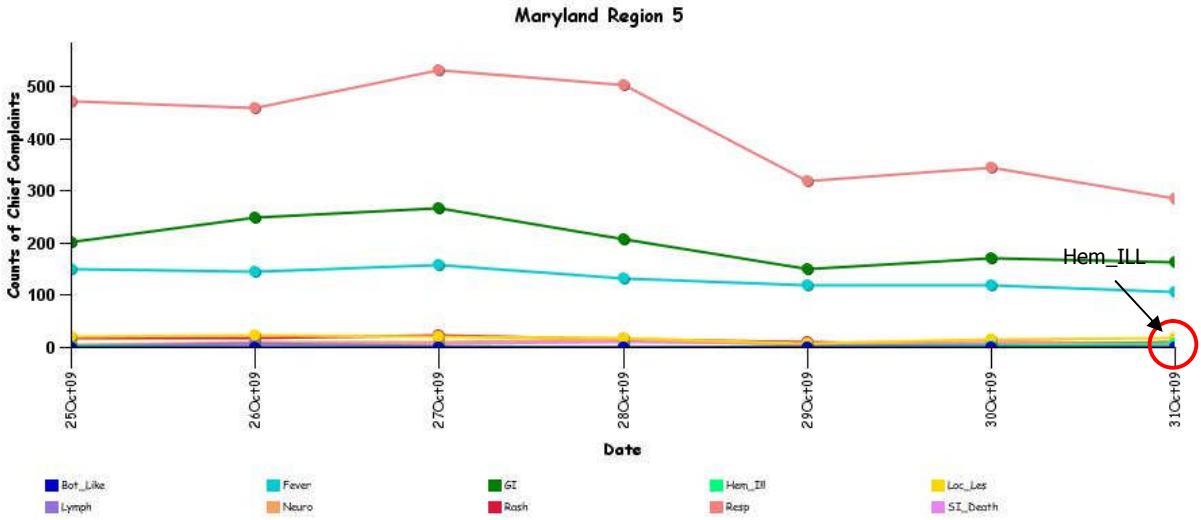
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

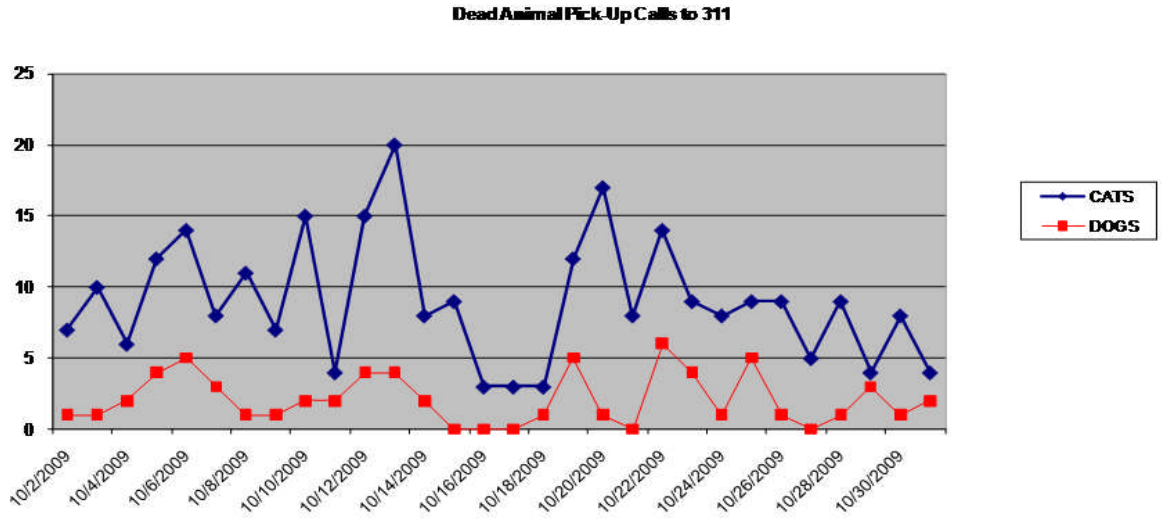


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



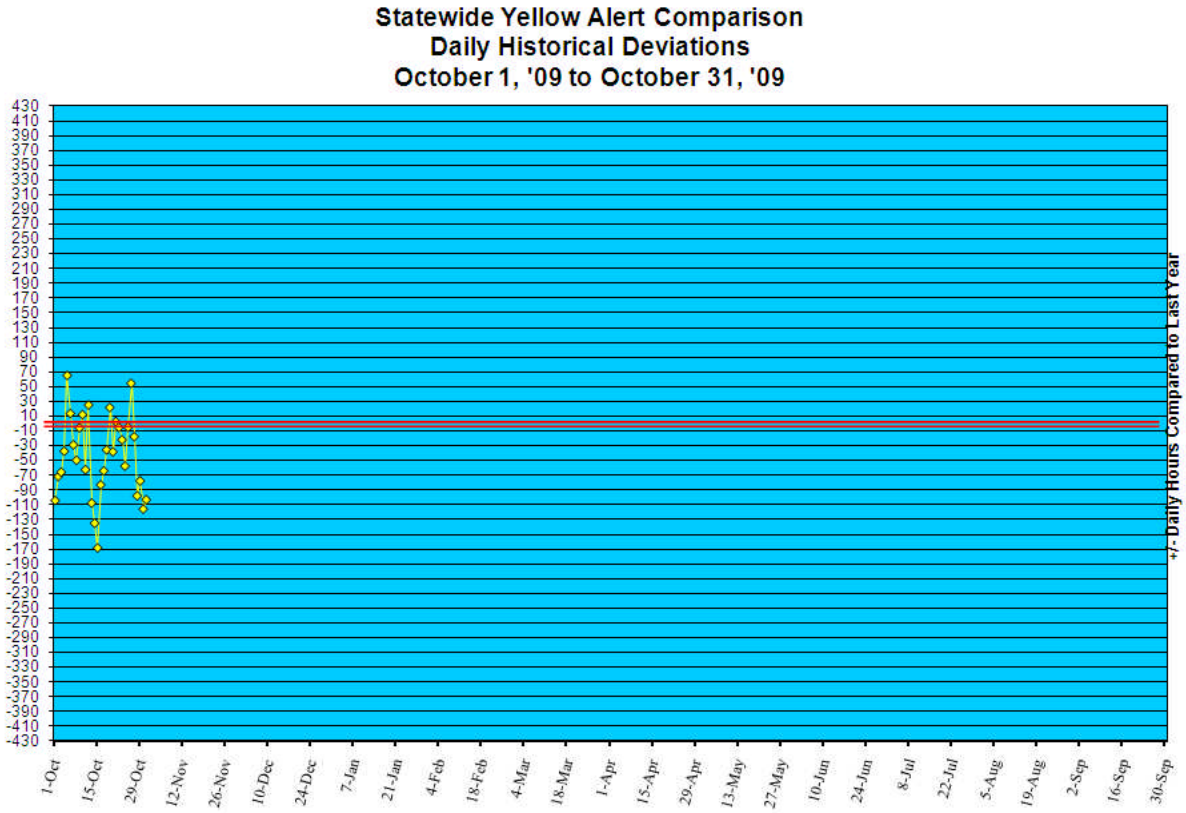
* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to BT for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in September 2009 did not identify any cases of possible terrorism events.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (Oct 25- Oct 31, 2009):	16	0
Prior week (Oct 18- Oct 24, 2009):	07	0
Week#43, 2008 (Oct 19 – Oct 25, 2008):	14	0

OUTBREAKS: 38 outbreaks were reported to DHMH during MMWR Week 43 (October 25-31, 2009):

36 Respiratory illness outbreaks
31 outbreaks of ILI in Schools
4 outbreaks of ILI in Daycares
1 outbreaks of INFLUENZA in Institutions

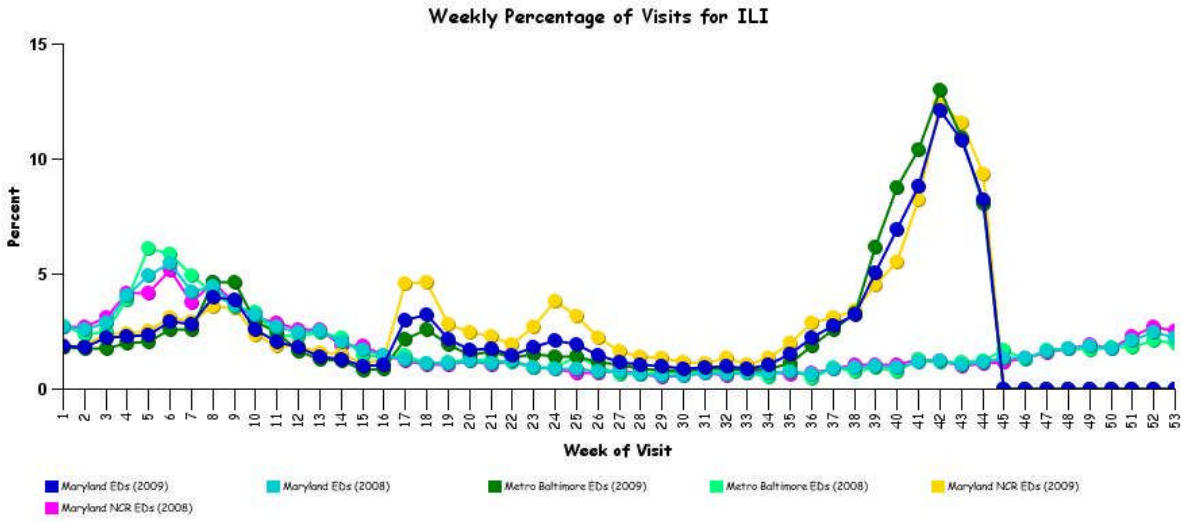
2 Rash illness outbreaks
1 outbreak of SCABIES associated with a Nursing Home
1 outbreak of SCABIES associated with an Assisted Living Facility

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 43 is WIDESPREAD.

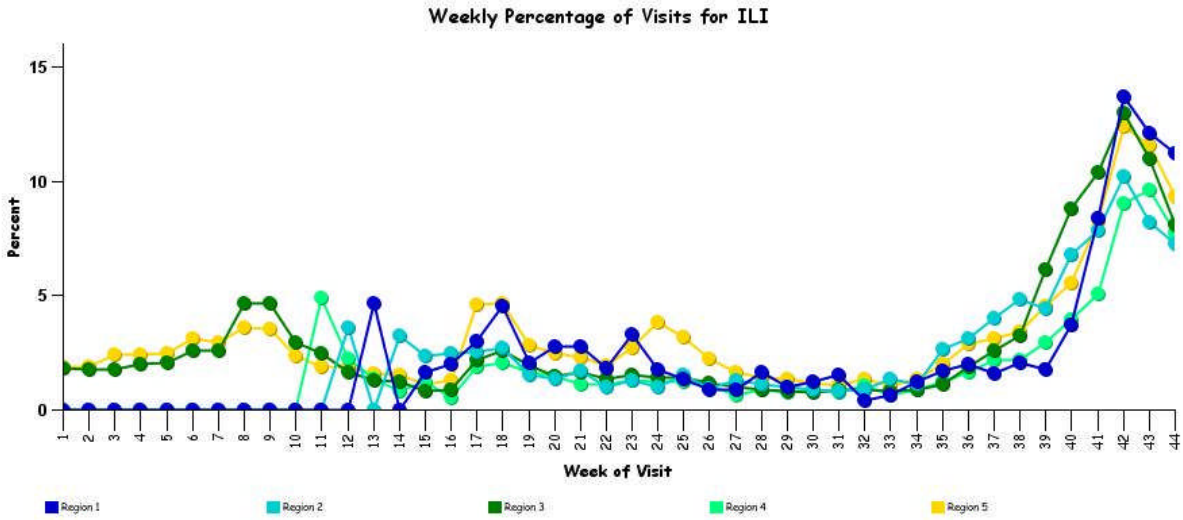
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the
week.



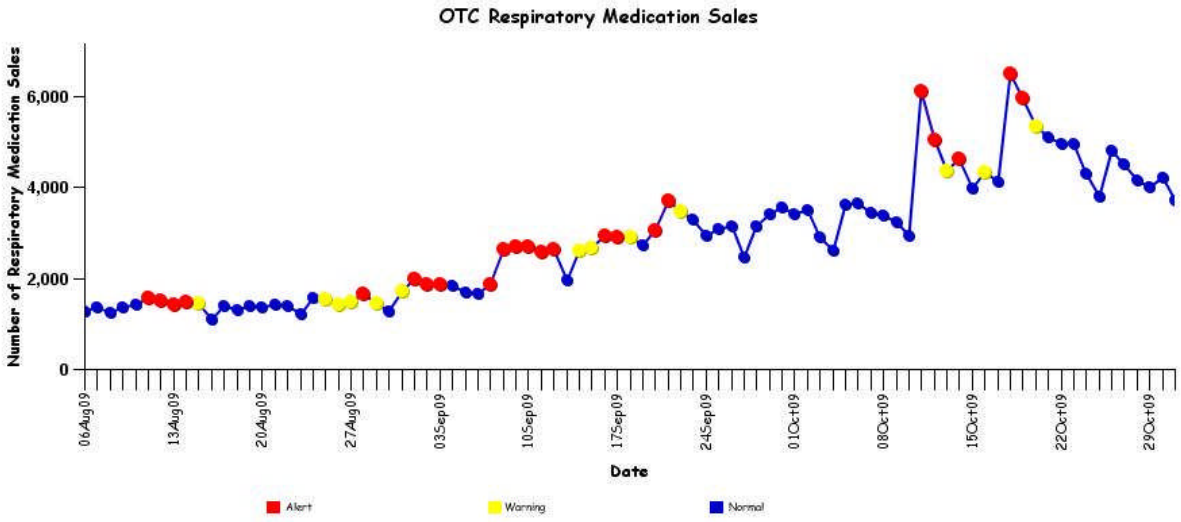
* Includes 2008 and 2009 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2009 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5
2009 data for these regions are depicted separately to establish baselines, due to the addition of new hospitals in these regions.

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

**More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at: http://preparedness.dhmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Version7.2).pdf

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of September 24, 2009, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 442, of which 262 have been fatal. Thus, the case fatality rate for human H5N1 is about 60%.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1), RESPONSES IN CHILDREN: 30 Oct 2009, Influenza A (H1N1) virus was detected by real time reverse transcriptase polymerase chain reaction [RT-PCR] in patients up to 13 days after onset of fever, according to results presented at the 47th Annual Meeting of the Infectious Diseases Society of America. The results were presented by Achuyt Bhattarai, MD, an Epidemic Intelligence Service Officer at the Centers for Disease Control and Prevention (CDC). The researchers conducted a telephone survey to identify elementary school students or household contacts of elementary school students with influenza-like illness onset within 7 days of the survey. The study was conducted in May - June 2009 in Pennsylvania. Among 36 specimens from students or contacts with influenza-like illness, 26 were identified as having influenza pandemic (H1N1) 2009 virus infection by real-time RT-PCR tests. Specimens were also tested by viral culture for the presence of H1N1 virus. Further analysis by real-time PCR determined that the median duration of viral shedding was 6 days (range 1-13 days) after the onset of fever. Further analysis by culture determined that the median duration that viable H1N1 was detected was 5 days (range 1-7 days) after the onset of fever. Real-time PCR detected virus for a median of 3 days following the resolution of fever. Virus was detected by culture an average of 2 days after the resolution of fever. "In our study, younger children were observed to have prolonged viral shedding, as compared to older children and adults, which is consistent with earlier studies of seasonal influenza," Bhattarai said. "However, I would like to emphasize that the results of our study should be interpreted carefully, because detection of virus may not mean that patients are likely to transmit the virus to others."This was one of the 1st studies to determine the duration of viral shedding during the current pandemic and one of the 1st among children," Bhattarai said.

INFLUENZA A (H1N1) 2009), OSELTAMIVIR RESISTANCE (USA): 30 Oct 2009, US researchers say they've spotted the 1st case of a Tamiflu [oseltamivir]-resistant influenza pandemic (H1N1) 2009 virus passing between 2 people -- raising the specter that more widespread resistance will render the antiviral drug [oseltamivir] less useful in combating the pandemic. The pandemic (H1N1) 2009 virus is spreading rapidly, although it has not changed from the typically mild illness observed last spring and summer [2009], experts said at a press conference held Thursday [29 Oct 2009] at the Infectious Diseases Society of America's annual meeting in Philadelphia. "We have the same [pandemic (H1N1) 2009] disease from the spring and summer but just a lot more of it right now," said Rear Admiral Dr Stephen Redd, director of the Influenza Coordination Unit at the US Centers for Disease Control and Prevention [CDC]. "An increasing proportion of people are visiting doctors with influenza-like illness, the disease is widespread and we are seeing more deaths in children in particular, and we would expect that to continue as the number of cases increases," he said. Antiviral drugs have been dispatched from the US government stockpile to treat children, Redd added. So far, almost all strains of H1N1 have responded to both oseltamivir (Tamiflu) and another antiviral, zanamivir (Relenza), while displaying resistance to amantadine, a drug in a different class. As a result, Tamiflu and Relenza have been used widely for both the prevention and treatment of H1N1. However, in June and July 2009, 65 campers and staff at a summer camp in North Carolina became ill with H1N1 and were treated with Tamiflu, while 600 other campers and staff took the antiviral to prevent the illness. 2 females who shared a cabin developed symptoms after starting on Tamiflu and were later found to have a virus with 2 viral mutations that rendered them resistant to the drug. The mutated virus was not found in other people tested. What's troubling is that one of the females appears to have transmitted the mutated virus to her cabin mate. "It is likely that this resistant virus was passed from one camper to the other based on the timing between the illnesses and 2 genetic mutations found in the virus in both campers," explained Dr Natalie Janine Dailey, lead author of the study and an epidemic intelligence service officer with the North Carolina Division of Public Health Communicable Disease Branch. "A small number of cases of oseltamivir-resistance have been seen in the USA so far, but these were the 1st cases reported in otherwise healthy individuals and the 1st which appeared to have spread from one person to another." "This suggests that using oseltamivir to prevent influenza in healthy people may increase the risk of resistance," she said. "If resistance became widespread, oseltamivir would no longer be effective." With this in mind, Dailey believes that the H1N1 vaccine, instead of antivirals, should be used for prevention as it becomes available, although treatment with antivirals should begin immediately in people who are hospitalized or who are at high risk, such as pregnant women, children under the age of 2, and people with underlying health conditions. A 2nd team of researchers looked at 26 elementary-school students in Pennsylvania and their household contacts who had tested positive for H1N1 to assess virus "shedding patterns." "We found the

median duration of shedding to be 6 days, with a minimum of one day and a maximum of 13 days," said study author Dr Achuyt Bhattarai, an epidemic intelligence service officer with the CDC. The same numbers were found in children over the age of 9, representing a longer time frame that is typically seen in adults. Bhattarai said, "This is consistent with earlier studies of seasonal flu." This and future data should help officials decide when children should be allowed to return to school.The teleconference also addressed the current delays and shortages in available H1N1 vaccine. "We're all disappointed and frustrated by the current situation with the vaccine supply but we need to recognize we're not alone. The situation is true globally," said Dr Bruce Gellin, director of the US Department of Health and Human Services' National Vaccine Program. The situation points up problems in the current vaccine production system, which relies on eggs as incubators of the virus. "There's certainly lots of room for improvement in these systems," Gellin said. "Some of the early issues are resolving, particularly real difficulties with yield and variability among manufacturers. Some yields were half what was expected, some were less than half. That was a large part of the issue. We're encouraged that many of these things are being optimized and it's the same with the seasonal vaccine every year. We continue to do tune-ups which are going to translate to more doses over the coming weeks and hopefully then, the lines will get shorter."

INFLUENZA PANDEMIC (H1N1) 2009, DENGUE CO-INFECTION (EL SALVADOR): 25 Oct 2009**,** In the eastern zone of the country, there have been reports of patients with simultaneous infection [co-infection] of influenza A (H1N1) and classical dengue fever, confirmed by the Vice Minister of Health, Eduardo Espinoza. In total, there have been 4 such cases of co-infection in the country nationwide. Of these, 2 are from the eastern zone, and the other 2 are minors who were treated at the Benjamin Bloom Children's Hospital months ago, said the health official. A day earlier, the head of the Health Surveillance Unit, Julio Armero, said he feared that in Upire, Nueva Esparta (La Union), where a 4th outbreak of the virus had been reported to the Department, there was a cross of influenza A (H1N1) and dengue, which could lead to a major outbreak. The Vice Minister of Health, Violeta Menjivar, does not believe that there will be an intersection of the disease at the national level, because preventive sanitary measures have been implemented and reinforced, and there is a focus on identifying and finding preventive processes. Communication with Honduras has been established in order to implement joint sanitary policies and avoid a major outbreak related to the flow of people, she said. "In La Union, there are combined [infections with] (H1N1) and dengue, so we have concentrated efforts of monitoring, education, prevention and elimination of [mosquito] breeding sites," said the deputy minister. Also, the Ministry of Health closed the case of the 9-month-old infant that had died in Guajiniquil, and he was suspected of having had H1N1. The mother took the infant from the [health center] before specimens were obtained, and, in addition, there was no autopsy. But the death was most probably due to H1N1 because 3 of the sisters of the child had H1N1, and one of them was also co-infected with dengue virus. Up to the present, El Salvador has reported 6 deaths from dengue hemorrhagic fever and 22 from H1N1 infection.

Resources:

http://www.cdc.gov/h1n1flu/

http://www.dhmh.maryland.gov/swineflu/

NATIONAL DISEASE REPORTS

No new disease outbreaks related to CDC Critical Biological Agents were reported for MWWR week 43.

INTERNATIONAL DISEASE REPORTS

ANTHRAX, HUMAN (KYRGYZSTAN): 26 Oct 2009, A 32-year-old resident of the Kosh-Terek village, Ala-Buka district, Jalalabad region has been taken to hospital with anthrax symptoms, the Emergency Ministry of Kyrgyzstan reported. At least 42 families residing in the village have also been put under medical observation, while 3 medical teams continue door-to-door visits and explanatory work, the ministry said. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

EASTERN EQUINE ENCEPHALITIS, EQUINE (BELIZE): 25 Oct 2009, Eastern equine encephalitis viruses (EEEV) in South America are neither as widespread nor as virulent as are North American strains. North American and South American strains can be antigenically and genetically distinguished. Despite widespread serologic evidence of the presence of EEEV in South America, this virus has seldom been associated with human disease or mortality there. Genotypes of EEEV from North and South Americas have important differences in their transmission cycles and virulence, with South American strains being less virulent for humans than are orth American strains. South American subtypes of EEEV certainly are pathogenic for horses as well as for humans. However, the pathogenicity of these subtypes is lower for vertebrates than are North American subtypes, not non-pathogenic, just of lower pathogenicity. Therefore, a case here and a case there may occur but not be recognized as such. As noted above, South American subtypes of EEEV do affect livestock, but, because there are so few cases, little emphasis may be put on lab-diagnosing these cases and even fewer reported. They do occur, however. Therefore, it was no surprise to have read [in Eastern equine encephalitis, equine - Belize (CY) OIE] that few cases of EEE have been reported from Latin America. It is probable that few cases have occurred. (Viral Encephalitis is listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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